

Later, Mrs. L. A. Moore brought me a number of heads from the other side of Boulder, which proved to be as follows:

- (1) *T. dubius*; normal, but with 12 involucre bracts, going 10 mm. beyond corollas.
- (2) *T. porrifolius*; normal, with 8 bracts.
- (3) *T. porrifolius*, variety. Flowers pale lilac; 8 involucre bracts. Two specimens, in one the bracts going 5 mm. beyond flowers, in the other only as far as ends of corollas.
- (4) *T. porrifolius*, variety. Flowers pale lilac as in 3, but rays very short, the total length of corollas of outer florets about 23 mm. The bracts, 10 in number, go about 17 mm. beyond corollas.

Are numbers 3 and 4 F_2 hybrids from *dubius* \times *porrifolius*? I cannot now find any typical *T. pratensis* in Boulder.

REVIEWS

Halls' Yosemite Flora*

Among the large number of books on out-of-door life we have seen none as attractive or as serviceable in make up as Professor and Mrs. Hall's "Yosemite Flora." The pigskin cover, the natural colored paper and the pocket size make it an almost irresistible companion to one interested in the wonderful flora display of Yosemite. Indeed the authors and their publishers have set a new standard which writers of popular books on natural history may well emulate.

Nor is the pleasing appearance the only virtue of the new flora. A casual thumbing of the pages discloses several half-tone plates illustrating some of the floral attractions of the park and many well-drawn text figures that greatly enhance its value. An introductory chapter discusses in a very readable style the general floral features and life zones of the region. Another chapter gives clear concise directions to the novice in the use of the keys and explanations of the botanical terms.

From the preface we learn that nine hundred and forty-five

* Hall, Harvey Monroe, and Carlotta Case. A Yosemite Flora. Pp. vii+282. Paul Elder & Company, San Francisco. 1912. \$2.00.

species and varieties are described, and that "the total number represented in the Yosemite National Park is considerably greater, since the grasses, sedges and rushes are here omitted." The omission of the grasses and related plants is probably justified since the book is planned primarily for the amateur and tourist, but without them botanists and foresters interested in the grazing problems of the Sierra Nevada will find the book seriously lacking.

Turning with a more critical eye to the text we find carefully worked out keys to the genera and species which will add much to the usefulness of the book. In the descriptive part emphasis is placed upon the species. The generic and family descriptions are brief, or when represented by a single species omitted entirely. In the conception of generic and specific lines the authors have been very conservative. They recognize, for instance, only one rose, which they term *Rosa californica*; as a matter of fact there are two roses in the region, neither of which, in our opinion, is typical *R. californica*. Again, *Castilleia parviflora* and *C. miniata* are included although students of the genus have long since recognized the Sierra Nevada plants as distinct from those northern species. Of course these are not serious defects, especially in a book planned for the amateur. The plant geographer, however, must needs be on his guard in using it for gathering data on plant distribution. But in many regards the "Yosemite Flora" is the best book that has appeared on the California flora since the "Botany of California." And although it nominally covers only a small section of the Sierra Nevada it will be found very useful throughout the mountain range.

L. R. ABRAMS

GAGER'S REVIEW OF PAYNE'S LABORATORY MANUAL OF EXPERIMENTAL BOTANY.—A REPLY

The review of Payne's Manual of Experimental Botany for high schools contributed by Dr. Gager in the June TORREYA interested me considerably for two reasons: first because of my personal acquaintance with Mr. Payne, whom I know to be